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Report No. 16812

IMPLEMENTATION COMPLETION REPORT

KOREA

PUBLIC HOSPITAL MODERNIZATION PROJECT

(Loan No. 3516-KO)

June 26, 1997

**Human Resources Operations Division
Country Department 1
East Asia and Pacific Regional Office**

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CURRENCY EQUIVALENTS

Currency Unit	=	Korean Won (W)
At appraisal	=	US\$1 = W 757
At completion	=	US\$1 = W 892

WEIGHTS AND MEASURES

Metric System

FISCAL YEAR

January 1 - December 31

ABBREVIATIONS AND ACRONYMS

BMA	Bureau of Medical Affairs
DRG	Diagnosis Related Groups
ESC	Equipment Selection Committee
GDP	Gross Domestic Product
GOK	Government of Korea
GPN	General Procurement Notice
HMD	Hospital Management Division
ICB	International Competitive Bidding
ICR	Implementation Completion Report
IFB	Invitation For Bids
LMD	Logistic Management Division
MOHSA	Ministry of Health and Social Affairs (name at appraisal)
MOHW	Ministry of Health and Welfare (name at completion)
NCD	Non-Communicable Disease
NIH	National Institute of Health
NHI	National Health Insurance
NMC	National Medical Center
OSROK	Office of Supply, Republic of Korea (name at appraisal)
PCR	Project Completion Report
PH	Public Hospital
PIU	Project Implementation Unit
PPS	Prospective Payment System
SAROK	Supply Administration, Republic of Korea (name at completion)
SNU	Seoul National University
SOE	Statement of Expense

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IMPLEMENTATION COMPLETION REPORT
KOREA
PUBLIC HOSPITAL MODERNIZATION PROJECT
LOAN 3516-KO

PREFACE

This is the Implementation Completion Report (ICR) for the Public Hospital Modernization Project in Korea, for which Loan 3516-KO in the amount of US\$30 million equivalent was approved on September 1, 1992. It was signed on October 2, 1992 and became effective on January 29, 1993.

The loan was closed on December 31, 1996. Final disbursement took place on March 26, 1997. The undisbursed balance of US\$197,221.71 was canceled on April 30, 1997.

The ICR was prepared by Ms. Carol Ball, assisted by Messrs. Willy de Geyndt and Sing-Zak Sung. The ICR was reviewed by Mr. Sven Burmester, Division Chief, EA1HR and Mr. Walter Schwermer, Project Advisor, EA1DR. The Borrower's evaluation and comments are included in an unedited form as Annex B.

Preparation of this ICR was begun during the Bank's last supervision/completion mission in October-November 1996. This mission visited the National Medical Center (NMC), National Institute of Health (NIH) and sample public hospitals (PHs). The information in this report is based on materials in the Project Implementation Index File, Divisional Black Books, and a submission from the Borrower dated February 18, 1997 as well as information received during the completion mission. The Borrower contributed significantly to the preparation of the ICR. Although requested by the Bank, no comment was provided on the draft ICR prepared by the Bank.

IMPLEMENTATION COMPLETION REPORT

KOREA

PUBLIC HOSPITAL MODERNIZATION PROJECT (LOAN 3516-KO)

EVALUATION SUMMARY

Objectives

1. The overall objectives of the project were to: (a) increase the access by rural and urban poor to medical care services, especially for early detection of non-communicable diseases (NCDs); (b) improve the quality of medical care in public hospitals (PHs); (c) assist the country in protecting the health of the population through a more effective control of the safety of drugs and the quality of food, and through monitoring NCDs; and (d) address critical health sector policy issues focusing mainly on sector financing and cost containment.

Implementation Experience and Results

2. Overall implementation was satisfactory. The project was closed on schedule and the costs did not exceed the budget. Counterpart funds were adequately provided throughout the life of the project. Actual loan disbursements were about US\$29.8 million or 99.3% of the loan amount. Disbursements conformed to all Bank's procedures including the use of Special Accounts. Over 95% of the biomedical equipment was procured under the international competitive bidding (ICB) procedures. The project encountered three difficulties during the first one and a half years of implementation. However, these problems, (a) the non-adherence to the Bank's requirement of 60 days between issuance of General Procurement Notice (GPN) and first Invitation For Bids (IFB), (b) the delay in launching the four project studies, and (c) the high disbursement lag, did not adversely affect project implementation. Effective implementation during later years made up for the initial time loss. Overdue submission of audit reports was a problem during the project's implementation, but all audits were provided before project closing. All other covenants were in full compliance.

3. In general, the project was able to meet its objectives as stated in the SAR (para. 6). The project had some success in its efforts to increase the participating institutions' healthcare and treatment capacity through the provision of training and equipment. The inpatient treatment capacity in the 10 public hospitals has not increased significantly. However, outpatient treatment services increased from 951,713 patients in 1993 to 1,063,507 patients in 1996, or about 10%. Furthermore, as the specialized equipment and associated training and policies become more fully institutionalized, it is expected that treatment capacity will continue to grow for several more years to come.

4. With the expansion of outpatient services in the public hospitals, there is reason to assume that the project made significant progress in the provision of access to the urban and rural poor.^{1/} Furthermore, the Government's focus on policy reform and the priority given to this objective both support an assumption that there will be continuing improvement in the PE's capacity to treat the poor. Within the NIH, the project also procured and installed specialized drug testing equipment to support the Institute's efforts to monitor and control the safety of drugs and food.

5. Despite some delays in the implementation of the studies component, all four studies were successfully completed. The findings of the studies have provided a framework for policy dialogue in the Health Sector.^{2/} It has also stimulated an increase in the interaction and cooperation of researchers in the Health Sector.

Sustainability

6. The Government has a long-term policy to commit the financial and human resources that are required to provide affordable, high quality, health care services throughout the nation. Furthermore, the Government has placed a priority on the provision of healthcare services for the rural and urban poor. The Government also has a clear understanding of the current issues and needs in the sector and, through the project, has improved its capacity to formulate future policy changes. It is, therefore, reasonable to assume that the outputs of the project will be sustained for years to come.

Bank Group Performance

7. Bank performance was generally satisfactory in the preparation of this project. Earlier sector work and previous projects contributed to a clear understanding of the policy issues and therefore, reduced the number of staff weeks required for project design, processing and implementation.

8. Bank supervision totaled about 25 staff weeks. This amount of time commitment is relatively low by Bank standards.

Borrower Performance

9. Borrower performance during project preparation was satisfactory. This led to the less than average processing time and low Bank staff input.

10. Despite start-up delays, the PIU was able to complete the project on schedule and achieve near full disbursement. Cooperation with Bank missions during the project cycle

^{1/} Urban and rural poor make up a significant percentage of outpatients in public hospitals.

^{2/} For a more detailed description of the policy studies completed, see Table 7.

was commendable and the Borrower made a major effort to support the Bank during the preparation of the ICR. Furthermore, communications with the Bank were generally accurate and prompt. This was particularly the case in the timely submission of Progress Reports to the Bank and Status Reports to visiting missions. Counterpart funds for the project were provided without major difficulty and project institutions did not experience any shortages of funds for recurrent expenditures.

Summary of Findings, Future Operations and Key Lessons Learned

11. Although the project was rated as satisfactory and probably could be rated as highly satisfactory in some areas, the ICR preparation team found that this project did not have an appropriate set of monitorable performance indicators. The expected outputs/impacts were not quantified in any significant way, nor were the stated monitorable indicators found to be very useful in the evaluation of the project.^{3/} This project was prepared using significant professional inputs from both the Borrower and the Task Manager and selected consultants.

12. There are a couple of lessons that should be noted. The first is that project implementation problems need to be resolved as early as possible in the project's implementation period. To do this, there is a need to maintain close and frequent cooperation between the Borrower and the Bank. This is particularly important during the first few months of project implementation. The second lesson is that the project came to realize that continuity problems were often caused by mandatory staff rotation policies. It also found that, to some extent, these problems could be mitigated by mandatory requirements for better communication and cooperation between the outgoing and incoming officers.

13. Due to Korea's graduation from borrower status in June 1995, there will be no further Bank-assisted operations in the country.

^{3/} It is important to understand that this discussion does not present a need for more data about the state of development in the sector. There is an abundance of data available. From the progress reports, etc., it is not difficult for the ICR preparation team to understand what has happened in the project. The problem is that the project was designed in such a way that there are no clearly stated targets for the objectives, only general statements using the verbs, "increase, improve, assist, and address". This lack of clarity prevents an accurate comparison from being made between the targets and outcomes/impact in the project.

IMPLEMENTATION COMPLETION REPORT

KOREA

PUBLIC HOSPITAL MODERNIZATION PROJECT (Loan 3516-KO)

PART I: PROJECT IMPLEMENTATION ASSESSMENT

A. PROJECT OBJECTIVES

1. The objectives of the project were to: (a) increase the access by rural and urban poor to medical care services, especially for early detection of non-communicable diseases (NCDs); (b) improve the quality of medical care in public hospitals; (c) assist the country in protecting the health of the population through a more effective control of the safety of drugs and the quality of food, and through monitoring NCDs; and (d) address critical health sector policy issues focusing mainly on sector financing and cost containment.

2. To achieve these objectives, the project: (a) upgraded the biomedical equipment in selected provincial and municipal PHs in less developed provinces and in the National Medical Center (NMC) in Seoul for improving their capacity to prevent, diagnose and treat NCDs; (b) enhanced the equipment infrastructure of the Korean National Institute of Health (NIH) for better quality control functions on food, water, drugs and vaccines; and (c) supported training and relevant research studies needed to address critical health sector issues and to establish a basis for the needed health sector policy changes.

Sectoral Development Objectives

3. The Government has made a number of policy decisions to make the health sector more equitable and efficient. It has enacted legislation to provide medical insurance coverage to the whole population as of July 1, 1989. It has divided the country into eight large medical regions and 140 Service Areas; it has created and defined a referral system to assure and orderly flow of patients within and among these eight regions. And, most important, it has expressed the political will and commitment to assure that in the 1990's health care services of consistently good quality should be available, affordable and accessible to the whole population. These policy measures are in line with the Government's determination to develop Korea's social sectors more quickly, and, in the case of the health sector, to respond to increased medical demand resulting from the universalization of medical insurance, rising incomes, technology innovations, an aging population structure, and the shift in the epidemiological profile from communicable to NCD.

Policy Issues

4. Korea's rapid economic growth in the last two decades has brought about an impressive increase in real living standards and equally impressive improvements in traditional health indicators. Economic success and the control of communicable diseases have, however, brought about a changed disease burden. The major causes of death and disability are now noncommunicable diseases. There is growing concern in Korea over equity issues, including a perceived increase in income inequality and greater inequity in access to quality medical care. Policy makers for health care now face three main issues: (a) equity - further redressing regional imbalances and ensuring financial access for all; (b) cost containment in an environment where supply and demand are both increasing; and (c) monitoring of the quality of medical care.

5. An immediate implication of the universal health insurance coverage was an increased demand for medical services in both rural and urban areas. With rising personal incomes, demand for quality medical services also increased. Obsolete equipment had to be replaced. Regional imbalances dictated that rural hospitals, health centers and clinics had to be upgraded. The increased demand, improved equity and higher quality medical services meant more health sector financing. To avoid escalation of the percentage share of health expenditures in the national gross domestic product (GDP), cost containment became a focal point in the government health policy.

Evaluation of Objectives

6. This project was built upon two earlier projects and one sector study and supplemented the immediate past project. The sector study focused on the effects and implications of health insurance and proposed options in the design and organization of the insurance system. The overall aim was to broaden access to all for medical services but within an affordable and cost-effective framework. The Population Project under Loan 1774-5-KO in 1979 aimed at reducing fertility and infant and maternal mortality, particularly in rural areas. The Health Technology Project under Loan 3330-KO in 1991 supported regionalization, improving access and enhancing equipment management efficiency, through on-lending to private hospitals.

7. The project was designed to continue addressing the access issue by placing emphasis on urban and rural public hospitals catering to the poor. The quality issue was addressed through the financing of modern biomedical equipment, and an action program addressing critical sectoral issues supported by relevant research studies, publications on health policy and financing, and a national consensus building program. The beneficiaries of this project were public hospitals and this was to complement the previous project's emphasis on private hospitals. Further, the health of the population was protected through a more effective control of the safety and quality of food, water, drugs and vaccines, and through monitoring of NCDs. The project also addressed critical health sector policy issues, focusing mainly on sector financing and cost containment.

B. ACHIEVEMENT OF PROJECT OBJECTIVES

8. The project met its overall objectives as stated in the SAR (para. 19) and its main achievements include:

- (a) The 10 participating PHs were well selected to provide a broad service area throughout the country. The inpatient treatment capacity in the 10 public hospitals has not increased significantly from 1993 through 1996. However, the outpatient service delivery has increased from 951,713 patients in 1993 to 1,063,507 patients in 1996, or about 10%. This increase provided greater access to medical care to the rural and urban poor.^{4/} The quality of medical care in these 10 hospitals and the NMC has been improved through the provision of modern equipment financed by the project. Furthermore, as the equipment, training and policy reforms become fully established and institutionalized, it is expected that additional capacity and quality will be gained over the next several years. In addition to its major function of providing acute care service to the poor, the NMC has now expanded the scope of its coverage to include chronic care services.
- (b) Project-financed new research and testing equipment for NIH enable it to monitor the safety of drugs and food, vaccines, antigens and communicable diseases more accurately and effectively.
- (c) The completion of four major studies addressed the critical health sector policy issues. These studies were completed on time and included: DRG-based Prospective Payment System in Korea, Development of Econometric Model for Optimum Allocation of Health Resources, Health Sector Financing and Expenditure Study; and An Impact Evaluation of the National Health Insurance in Korea. All four studies were of high quality and have increased the policy dialogue and health services research expertise within Korea.
- (d) Equipment procured with the loan proceeds was relevant to the project objectives and has increased the quality of health services in all project institutions. Management of equipment usage was fully satisfactory.

^{4/} See footnote 1.

C. IMPLEMENTATION RECORD AND MAJOR FACTORS AFFECTING THE PROJECT

Implementation Record

9. Overall responsibility for project implementation was under the Bureau of Medical Affairs (BMA) of the Ministry of Health and Welfare (MOHW)^{5/}. The Hospital Management Division (HMD) in BMA acted as the Project Implementation Unit (PIU) and was assisted by the Logistics Management Division (LMD) in MOHW. The already established Equipment Selection Committee (ESC) was responsible for equipment selection in accordance with the Criteria for Selecting Equipment (Annex 9 in SAR) and the Equipment Selecting Procedures (Annex 10 in SAR). Equipment procurement, including all post-procurement services, was undertaken in conjunction with MOHW and project institutions by the Office of Supply, Republic of Korea (OSROK)^{6/}. The Policy Implementation Committee supervised the implementation of the Action Program and Training. Specialists/researchers from related Institutes and Seoul National University (SNU) carried out the four studies. Management of project implementation was satisfactory.

10. Based on the original allocation of loan proceeds in Annex 8 of the SAR, the final allocation by components (Table 5) showed that the loan allocation to the NIH remained the same while NMC and PHs experienced about 30% deviation from the original estimates. Furthermore, MOHW regarded the NMC as being very similar to the PHs. Thus, the NMC and PHs were considered as a single entity for the purpose of allocation. This in effect, combined the two components into one for funding purposes. The Bank accepted the reasoning and the final disbursement of US\$19.9 million for NMC and PHs was within the originally agreed ceiling of US\$20 million. This did not affect the outcome of the project because both NMC and all PHs are under MOHW and receive yearly government budget allocation - any surplus or shortage would level off.

11. Despite some delay in launching the studies during the start-up phase, all four studies were successfully completed before the Closing Date (Table 7). The outcome of the project, therefore, was not adversely affected by the delay. Training activities were satisfactorily implemented as planned and sufficiently funded by the national budget.

12. Disbursements were satisfactory, although there were disbursement lags in the early years of project implementation due to the longer than anticipated selection process for PHs and for equipment as mentioned in Annex 9 and 10 of the SAR. Total disbursements reached US\$29.8 million or 99.3% of the total loan amount. The amount of loan cancellation was US\$0.2 million, which was less than 1% of the loan amount.

^{5/} Previously known as Ministry of Health and Social Affairs (MOHSA).

^{6/} The new name is now Supply Administration, Republic of Korea (SAROK).

13. During the initial period of equipment procurement, the mandatory requirement of a 60 day period between the publication of the GPN and announcement of the first IFB, as stipulated in Section 2.8 of the Bank's Procurement Guidelines dated May, 1992, had not been observed due to the change of administration officers. However, this did not result in a reduction of the total number of responses and the number of countries submitting bids, and as a result, bid prices were not higher than other cases of bid-inviting activities. Furthermore, all embassies in Seoul had been duly informed. The Bank, after confirming the above outcome, granted a waiver on this violation of the Procurement Guidelines as an exceptional case and advised that no further recurrence would be acceptable. The rest of the procurement was carried out smoothly. All biomedical equipment was selected in accordance with the criteria as agreed with the Bank and all procurement activities followed agreed procedures (para. 8 above). A post-award sample review of bid evaluation reports and bidding documents for ICB (over 95% of total amount of equipment purchased) showed no irregularities whatsoever ^{7/}, thus providing evidence that that all contracts had been awarded to the lowest evaluated bidders. All equipment was purchased at prices close to the original estimate and there was no cost overrun (local or foreign).

14. Submission of audit reports and the separate opinion on Statement of Expenditures (SOEs) was late, but all required reports were submitted before the Closing Date of the Loan. There were no qualified opinions either in the audit report or in the separate opinion on SOEs. SOEs were routinely sample-checked by visiting missions and there were no irregularities. All other covenants were in full compliance.

15. Despite the problems mentioned above, the project was well implemented with all planned activities achieved. The loan was closed on schedule. There were adequate counterpart funds from the annual MOHW budgets.

Major Factors Affecting the Project

16. None of the problems mentioned on para. 15 have adversely affected the implementation of this project or the achievement of project objectives. The one identified problem was the lack of quality performance indicators to support the implementation and evaluation of the project (para. 19).

Consulting Services

17. Local consultants were employed to carry out the four studies and were funded from the national budget. Their performance was highly satisfactory.

^{7/} Prior review was waived for this project in Schedule 4 of the Loan Agreement.

D. PROJECT SUSTAINABILITY

18. Effective steps have been taken to assure that the Government will be able to provide affordable high quality health care services to the entire population of the country. Most noticeable is the implementation of Universal Health Insurance coverage in 1989 for all citizens. Since 1989, there has also been a narrowing of the urban/rural resource distribution gap. In part, this has been accomplished by giving medical school graduates the option to work in rural areas in lieu of military services, and by making Government investments in the rural hospital and health center infrastructure to improve the diagnostic and treatment capabilities of those lower level facilities. The Government used two Bank loans to finance much of this effort. Using these loans, the Government also completed four major studies which laid the framework for future policy changes to control health expenditures, optimize utilization of resources, make rational choices of provider payment methods and take cost containment actions. In addition, the Government has committed sufficient human and financial resources to ensure that all the project institutions are well managed and efficiently operated without funding problems. It is therefore reasonable to assume that the project's outcomes will be fully sustainable in the future.

E. BANK GROUP PERFORMANCE

19. Although the project was rated as satisfactory and probably could be rated as highly satisfactory in some areas, the ICR preparation team found that this project did not have an appropriate set of monitorable performance indicators. The project objectives and expected outputs/impacts were not quantified in any significant way, nor were the stated monitorable indicators found to be very useful in the evaluation of the project. Thus, the team found it difficult to support the assumed ratings with quantitative findings. However, this project was prepared using significant professional inputs from both the Borrower and the Task Manager and selected consultants.

20. Associated with this problem, the team also found that there are a number of questions that remain unanswered. As an example, did the growth in Public Hospital (PH) treatment capacity result from project inputs or was it simply a feature of a growing economy where there was an ever expanding concern for the improvement of hospitals? In effect, did the inputs of the project make any difference in the development of the PH capacity? Also, what is the percentage of the treatment growth that is expected in order for the project to be considered successful? Should the target be a 10% growth rate over the life of the project, or perhaps 20%, or perhaps even higher? As there were no targets identified for the project, these questions are difficult if not impossible to answer through any type of "ex-post facto analysis". The inability to answer these important questions must be considered, to some extent, a shortcoming in the project design and preparation.

21. Given the above stated inadequacies in the monitorable indicators, Bank performance was generally satisfactory in the preparation of this project. Earlier sector work and previous projects contributed to a clear understanding of the policy issues and,

therefore, reduced the number of staff weeks required for project design, processing and implementation.

22. Bank supervision totaled about 25 staff weeks. This amount of time commitment is relatively low by Bank standards. Bank-Borrower relations remained high throughout the implementation period of the project.

F. BORROWER PERFORMANCE

23. Borrower performance during project preparation was satisfactory. This led to the less than average processing time and low Bank staff input.

24. Despite start-up delays mentioned on para. 11, the PIU's was able to complete the project on schedule and achieve near full disbursement. Cooperation with Bank missions during the project cycle was commendable and the Borrower made a major effort to support the Bank during the preparation of the ICR. Furthermore, communications with the Bank was generally accurate and prompt. This was particularly noted in the timely submission of Progress Reports to the Bank and Status Reports to visiting missions. Counterpart funds for the project was provided without major difficulty and project institutions did not experience and shortages of funds for recurrent expenditures. These funds financed equipment transportation and installation, equipment maintenance and repair, consumable materials, training, etc. Throughout the implementation period, all institutions performed well with high equipment utilization rates, few space or staff shortages and with effective management. As a result, the overall operation of the project was satisfactory.

25. Covenant compliance was generally satisfactory. However, submission of audit reports and the separate opinion on SOEs was in partial compliance because of occasional delays (Table 10).

26. Equipment procurement was also generally satisfactory. Biomedical equipment was secured at reasonable prices through ICB and all contracts were awarded to the lowest evaluated bids. All equipment was delivered, installed and fully utilized. The recurrent expenditure of equipment operation was partly or fully recovered through the fee-for-service payment system. There was no evidence of any maintenance problems, shortage of spare parts or lack of consumables.

27. The decision to not publish the GPN 60 days prior to inviting bids, which occurred under Loan 3315-KO, was repeated under this project. One possible cause of the recurrence was personnel change in OSROK, government central procurement agency. New staff was transferred in the organization without proper briefing on World bank equipment procurement procedures. Despite this incident, in general, procurement procedures in Korea are well established, and professionally handled by OSROK which has had a long and successful experience in handling Bank projects. This incident did not

result in a reduction in the total number of responses and the number of countries submitting bids. The problem was resolved and did not adversely affect the bidding process for equipment.

G. ASSESSMENT OF OUTCOME

28. The project outcomes were rated as satisfactory in the last supervision report. Most project objectives have been achieved and some could not be expected immediately (para. 8). Increasing the access to medical care services can only be achieved through a continuous and long-term process, as well as through ongoing policy changes. Quality improvements are substantial in all of the participating institutions where major investments in equipment have been provided. The project has also assisted NIH to upgrade its capacity to monitor NCDs and to improve its ability to monitor the quality of food, food additives, air pollution and drinking water, and the safety of drugs, vaccines and antigens. There are also good prospects for sound policy changes, especially on cost containment, based in part on the analytic work of the four studies.

H. FUTURE OPERATION

29. Due to Korea's graduation from borrower status in 1995, there will be no future Bank operations.

I. KEY LESSONS LEARNED

30. The SAR does not provide an agreed upon set of quality performance indicators sufficient to evaluate the impact of the project. Consequently, it is difficult to present an accurate and fair presentation of the project's effectiveness in the ICR. This important shortcoming in the SAR must be considered a deficiency in the project's preparation and certainly presents a lesson to be learned.

31. Although not key lessons, there are also two other findings that should be mentioned. The first is more obvious. Project implementation problems need to be resolved as early as possible in the project's implementation period. To do this, there is a need to maintain close and frequent cooperation between the Borrower and the Bank. This is particularly important during the first few months of the project's implementation period. In the second finding, experience under the project indicated that continuity problems were often caused by mandatory staff rotation policies. It also found that, to some extent, these problems could be mitigated by mandatory requirements for better communication and cooperation between the outgoing and incoming officers.

PART II : STATISTICAL INFORMATION

Table 1: Summary of Assessments

A. <u>Achievement of Objectives</u>	<u>Substantial</u> (✓)	<u>Partial</u> (✓)	<u>Negligible</u> (✓)	<u>Not applicable</u> (✓)
Macro Policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sector Policies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial Objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Institutional Development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical Objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poverty Reduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Gender Issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other Social Objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental Objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Sector Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other - Private Sector Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. <u>Project Sustainability</u>	<u>Likely</u> (✓)	<u>Unlikely</u> (✓)	<u>Uncertain</u> (✓)	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

(Continued)

C. <u>Bank Performance</u>	<u>Highly</u> <u>satisfactory</u> (✓)	<u>Satisfactory</u> (✓)	<u>Deficient</u> (✓)
Identification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Preparation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Appraisal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Supervision	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

D. <u>Borrower Performance</u>	<u>Highly</u> <u>satisfactory</u> (✓)	<u>Satisfactory</u> (✓)	<u>Deficient</u> (✓)
Preparation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Implementation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Covenant Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Operation (if applicable)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

E. <u>Assessment of Outcome</u>	<u>Highly</u> <u>satisfactory</u> (✓)	<u>Satisfactory</u> (✓)	<u>Unsatisfactory</u> (✓)	<u>Highly</u> <u>unsatisfactory</u> (✓)
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TABLE 2: Related Bank Loans/Credits

Loan/credit title	Purpose	Year of approval	Status
<i>Preceding operations</i>			
1. Population (Ln. 1774-5-KO)	Reducing fertility and infant and maternal mortality, particularly in rural areas.	1979	Completed 12/31/87
2. Health Technology (Ln. 3330-KO)	Supporting the regionalization of service, improving access to modern medical technologies and improving the efficiency of equipment management.	1991	Completed 12/31/94
<i>Following operations</i>			
<i>None in Health Sector</i>			

Table 3: Project Timetable

Steps in Project Cycle	Date Planned	Date Actual/ Latest Estimate
Identification (Executive Project Summary)	12/90	12/17-12/20/90
Preparation ^{1/}	03/91	03/17-03/29/91
Preappraisal/Appraisal ^{2/}	08/91 / 11/91	08/26-09/06/91
Negotiations	07/92	06/16/92
Board Presentation	09/92	09/01/92
Signing	10/92	10/02/92
Effectiveness	01/93	01/29/93
Project Completion	06/30/96	12/09/96 ^{3/}
Loan Closing	12/31/96	12/31/96
Last Disbursement	04/30/97	03/26/97
Cancellation of Remaining Funds	04/30/97	04/30/97

^{1/} Preparation was largely done by the Government after the 03/91 preparation mission.

^{2/} Appraisal mission was considered unnecessary after preappraisal mission in 08-09/91.

^{3/} Source: MOHW submission dated 02/18/97.

Table 4: Loan/Credit Disbursements: Cumulative, Estimated and Actual*(US\$ million)*

Cumulative Disbursements	FY93	FY94	FY95	FY96	FY97
Appraisal Estimate	3.0	10.0	20.0	27.5	30.0
Actual	1.0	5.8	19.2	27.2	29.8
Actual as % of Estimate	33%	58%	96%	98.9%	99.3%
Date of Final Disbursement -	March 26, 1997				

Table 5: Key Indicators for Project Implementation

Key Implementation Indicators in the SAR/President's Report

	In 1991 estimated	By 1996 actual
(a) Loan proceeds by components (in million) ^{1/}		
NIH	\$10.0	\$ 9.8
NMC ^{2/}	\$10.0	\$13.7
PH ^{2/}	\$10.0	\$ 6.2
Total	\$30.0	\$29.8 ^{3/}
(b) Studies		
	4	4 (all completed)

1/ Expenditures on studies are not significant.

2/ MOHW considered that NMC, also a public hospital, should be combined with the other 10 PHs, therefore the combined total is not exceeding the planned combined ceilings.

3/ Figures do not add up due to rounding.

Table 6: Key Indicators for Project Operation

Not Applicable

Note: Project Operation was satisfactory in past health projects in Korea. *No operation indicators were considered necessary.*

Table 7: Studies Included in Project

Study	Purpose as Defined at Appraisal/Redefined	Status	Impact of Study
1. Health sector financing and expenditures study	<p>The objectives of this comprehensive study of national health expenditures were:</p> <p>(a) an analysis of the trend, sources of funds and types of expenditures through time-series data on national health expenditures and related statistics for each year since 1985; and</p> <p>(b) facilitating international comparisons of health services and expenditures.</p>	Completed	Six reports had been published by January 1997, which could form the basis of formulating policies on cost containment.
2. Development of econometric model for optimum allocation of health resources	<p>For:</p> <p>(a) developing indirect methodology for estimating demand of medical resources;</p> <p>(b) analyzing supply status of each health resource by each middle health service district (m.h.s.d.);</p> <p>(c) classifying 138 m.h.s.d. by their geographical characteristics; and</p> <p>(d) making recommendations on policy matters for planning a balanced supply of health resources in Korea.</p>	Completed	Two books have been published including the analysis, optimum allocation of health resources by health service districts and recommended policies.
3. Impact evaluation of the National Health Insurance (NHI) in Korea	To evaluate the impact of the NHI program on the provision of health services, particularly from the perspective of equity, efficiency and quality of care.	Completed	Provided the basis for policy decisions.

continued

4. Implementation of DRG-based ^{1/} prospective payment system (PPS) in Korea	To evaluate alternatives to the fee-for-service method for paying providers of medical care services.	Completed	(a) The understanding of the health care providers, patients and insurers in the payment system has been deepened; and (b) a pilot program using the DRG-based PPS will be operated for one year from February, 1997. Further development will depend on the results of the pilot program.
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^{1/} DRG - Diagnosis Related Groups.

Table 8A: Project Costs

	Appraisal Estimate (US\$M)			Actual/Latest Estimate(US\$M) ^{/1}		
Item	Local Costs	Foreign Costs	Total	Local Costs	Foreign Costs	Total
1.Equipment	-	34.6	34.6	4.5	29.8	34.3
2.Transportation installation	3.1	0.4	3.5	3.6	-	3.6
3. Action program and training	0.3	-	0.3	0.3	-	0.3
4.Operations & maintenance	2.2	0.2	2.4	2.4	-	2.4
5.Consumable materials	2.6	0.2	2.8	2.8	-	2.8
6. TOTAL	8.2	35.4	43.6	13.6	29.8	43.4

^{/1} Based on submission attached to MOHW's letter dated February 18, 1997.

Table 8B: Project Financing

	Appraisal Estimate (US\$M)			Actual/Latest Estimate(US\$M) ^{/1}		
Source	Local Costs	Foreign Costs	Total	Local Costs	Foreign Costs	Total
IBRD	-	30.0	30.0	-	29.8	29.8
Domestic Contribution	13.6	-	13.6	13.6	-	13.6
TOTAL	13.6	30.0	43.6	13.6	29.8	43.4

^{/1} Based on submission attached to MOHW's letter dated February 18, 1997.

Table 9: Economic Costs and Benefits

Not Applicable

Table 10: Status of Legal Covenants

Agreement	Section	Covenant type	Present status	Original fulfillment date	Revised fulfillment date	Description of covenant	Comments
Ln 3516-KO	3.03 (a)(i)	3	C			Re-lend through MOHW to NMC	Fulfilled
	3.03(a)(ii)	3	C			Re-lend to NIH	Fulfilled
	3.03(a)(iii)	3	C			Re-lend to municipalities/ Provinces (for public hospitals)	Fulfilled
	3.04	10	C			Carry out Part C of the Project in accordance with Schedule 9	Fulfilled
	3.05(a)	10	C			Maintain the PIU satisfactory to the Bank	Fulfilled
	3.05(b)(i)	5	C			Comply with the criteria and procedures for equipment selection in accordance with Schedule 8	Fulfilled
	3.05(b)(ii)	10	C			Maintain the Equipment Selection Committee satisfactory to the Bank	Fulfilled
	3.06	10	C			Carry out the Action Program agreed with the Bank	Fulfilled
	4.01(b)(ii) and (c)(iv)	1	CP	06/30		Submit to the Bank Audit Report including a separate opinion on SOEs by June 30 of each year	Fulfilled, but with occasional delays

Notes: (a) Covenant type (only for those used in this table)

- 3 Flow and utilization of project funds
- 10 Implementation
- 5 Management aspects
- 1 Accounts/audit

(b) Status (only for those used in this table)

- C Complied with
- CP Compliance after delay

(c) A previous error in the supervision reports has been rectified here. The Covenant type for Sections 3.03(a)(i), (ii) and (iii) should have been 3 and not 1.

Table 11: Compliance with Operational Manual Statements

No evidence of non-compliance with applicable Bank manual statements observed.

Table 12: Bank Resources: Staff Inputs

Stage of Project Cycle	Planned		Revised		Actual	
	Weeks	US\$(000)	Weeks	US\$(000)	Weeks	US\$(000)
Through Appraisal	-	-	-	-	16.2	50.3
Appraisal	-	-	-	-	1.5	4.3
Negotiations through Board approval	-	-	-	-	10.0	30.9
Supervision	-	-	-	85.8	21.9	83.4
Completion	-	-	3.7	14.7	3.1	8.4
TOTAL	-	-	-	-	52.7	177.3

Note: No or incomplete MIS or COS data for the planned or revised in staff-weeks and in dollars.

Table 13: Bank Resources: Missions

Stage of Project Cycle	Month/ Year	Number of Persons	Days in Field	Specialized Staff Skills Represented	Performance Rating		Types of Problems
					Implement- -ation Status	Develop- -ment Objective s	
Through Appraisal	12/17- 12/20/90	1	4	HPE			
	03/17- 03/29/91	2	12	HPE, MSP			
Appraisal through Board approval	08/26- 09/06/92	2	11	HPE, MSP			
Supervision	05-06/93	3	4	HPE,HPE,MSP	2	2	Violated Procurement Guidelines, disbursement lag high, studies delayed, overdue audit reports (problems were all resolved before completion)
	10-11/93	1	5	MSP	2	2	
	04-05/94	1	4	MSP	1	1	
	11-12/94	2	6	HPE, MSP	HS	HS	
	10/95	2	7	HPE, MSP	HS	HS	
	10/96	2	8	HPE, MSP	HS	HS	
Completion	11/15/96	1	1	MSP			

Note: HPE - Health and Nutrition, MSP - Management and Administration

Ratings: 1 - very satisfactory, 2 - satisfactory, HS - highly satisfactory

ANNEXES

REPUBLIC OF KOREA

PUBLIC HOSPITAL MODERNIZATION PROJECT (Loan 3516-KO)

IBRD Progress Review and Project Completion Mission

Aide Memoire

1. An IBRD mission consisting of W. De Geyndt and S. Sung visited Korea October 21-26, 1996 to review the implementation progress of Loan 3516-KO and to reach agreement with the Ministry of Health and Welfare (MOHW) on preparing the Implementation Completion Report (ICR). This aide memoire records the findings of the mission and the agreements reached on actions to be taken by IBRD and MOHW at the time of loan closing on December 31, 1996.

2. The mission visited the Ministry of Finance and Economy (MOFE), MOHW, the National Institute of Health (NIH), the National Medical Center (NMC), the Korea Institute of Health Services Management (KIHM), the Korea Institute for Health and Social Affairs (KIHASA), and the Office of Supply, Republic of Korea (OSROK). Their kind assistance and efficient cooperation is deeply appreciated.

Progress Review

3. Procurement. All planned procurement actions have been taken by MOHW and OSROK. Total amount of procurement reached US\$29.8 out of a US\$30 million loan. All equipment has been delivered, installed and is in use except for a few small recent contracts. The mission reviewed a 20% random sample of the 29 contracts signed during the period of this review (October 95-October 96) and found all six contracts to be in order.

4. Disbursements. Total disbursement as of September 30, 1996 is US\$29.5 million. The final disbursement amount is expected to reach US\$29.8 leaving an undisbursed amount of US\$0.2 million or two thirds of one percent of the loan amount. This very small undisbursed amount would be cancelled on the closing date.

5. Special Accounts (SAs) and Statement of Expenditures (SOEs). There are two SAs accounts: one of US\$2.0 million for NMC and the provincial and municipal Public Hospitals (PH) and one of US\$1.0 million for NIH. The mission reviewed the use of the SAs during this 12-month review period and examined a 15% random sample of the line entries in the 21 withdrawal applications from the first SA and of four withdrawal applications from the second SA. The entries for contracts in the SOEs were checked against original vouchers and contract sheets and were found to be satisfactory.

6. Loan Covenants. Eight of the nine loan covenants in the Loan Agreement have been met during project implementation. The covenant dealing with audit reports and SOEs has been fulfilled until 1995. The 1996 audit report and separate opinion on SOEs for expenditures made in Korean FY 1995 was due June 30, 1996 and has not yet been received by the Bank. MOHW assured the mission that it will be sent by the end of this month. The mission reminded the government that one more audit report will be due in 1997 for expenditures incurred during Korean FY 1996.

7. Health Policy Research Studies. The first comprehensive review of National Health Expenditures was completed by KIHM in 1994. The data are updated annually providing an ongoing record of national health care expenditures. The design and the operational plan of the study Alternatives to Fee-for-Service Payment - also conducted by KIHM - have been completed and focus on implementing a DRG-based prospective hospital reimbursement payment system in lieu of the current fee-for-service scheme. An initial set of 30 DRGs will be used in participating hospitals in 1997. Participation will be on a voluntary basis in light of some active resistance by professional associations to a change in reimbursement methods. The study on a Resource Allocation Model was completed by KIHASA in 1995 and documented in two reports that were submitted to MOHW. An abstract in English will be prepared and the mission offered its assistance in its preparation. The evaluation of the impact of National Health Insurance is being carried out by the School of Public Health at Seoul National University and is proceeding well. The Bank received an interim report in July 1996 and the final report will be ready by the end of December 1996.

Project Completion and ICR Preparation

8. Loan Closing Date. The mission and MOHW agreed that the loan will be closed on December 31, 1996. No time extension is necessary given the timely implementation of the entire project.

9. Grace Period for Disbursements. Disbursements will reach over 99% of the loan amount before the closing date and no miscellaneous payments are expected to be paid after the closing date. The mission and MOHW therefore agreed that granting a four month grace period would not be necessary.

10. Cancellation of Undisbursed Loan Proceeds. The anticipated undisbursed loan amount is about US\$0.2 million. If the undisbursed amount is still in the two SAs then MOHW will refund IBRD the undisbursed amount after confirming the exact figure with the Bank's Disbursement Division and with MOFE's Treasury Division. In case the funds in the two SAs have already been recovered by the Bank then the Bank will determine the exact undisbursed amount and inform MOFE and MOHW of the loan amount cancelled.

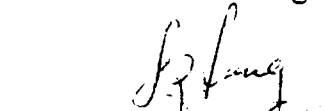
11. ICR Preparation. The mission briefed the interested parties (MOHW, NIH, NMC) on the objectives, the rationale, the contents, respective responsibilities and due date of the ICR. An ICR for a recently completed IBRD/ROK project (Loan 3203-KO) and a handout were left for reference. The borrower contribution to the ICR is an Evaluation Summary of project performance which needs to be sent to the Bank for inclusion in the final ICR. The mission made reference to para 4.1 (page 25) of the Staff Appraisal Report dated June 29, 1992 and suggested evaluating the expected quantitative and qualitative benefits realized as a result of the project in each of its three components as well as in the health policy research studies. Also suggested was the inclusion in the Evaluation Summary of a plan for the project's future operation which would indicate the borrower's intention to make the project sustainable after loan closing.

12. Agreement was reached that the borrower's Evaluation Summary would be sent to IBRD by March 31, 1997. This would allow the Bank to complete the ICR and finalize it by the official due date of June 30, 1997 or six months after project closing.

Seoul, October 26, 1996



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Attachment

(a) Time Schedule - Steps and Dates

<u>Bank Side</u>		<u>MOHW Side</u>	
<u>Step Name</u>	<u>Date</u>	<u>Step Name</u>	<u>Date</u>
Project Completion Mission	Held already in Oct./Nov. 96	Data Collection	Between 11/15/96 and 02/15/96
		Documents and Tables to reach Bank	02/15/97
ICR Drafting	Between 02/15/97 and 03/15/97	Evaluation Summary Preparation	Between 11/15/96 and 03/31/97
Draft ICR to MOHW	03/15/97	Comments on Draft ICR	Between 03/15/97 and 05/15/97
		Evaluation Summary to reach Bank	03/31/97
Gray Cover ICR Preparation	Between 03/15/97 and 05/15/97		
ICR to the Bank's Board of Executive Directors	06/30/97		

(b) List of Documents and Tables to be sent to the Bank from MOHW

- (i) The Evaluation Summary to be annexed to the ICRF (See steps 3 and 5 above)
- (ii) Documents and Tables: (See step 2 above)
 - Project cost table
 - Project finance table
 - Project components starting and completion dates table (4 components; NIH, NMC, Public hospitals and 4 studies)
 - Table on transfers between PH and secondary/tertiary hospitals
 - Four study reports including their recommendations to MOHW
 - A plan for future operations, as evidence on sustainability
- (iii) Comments on draft ICR (See Bank side step 4)

(c) The Documents to be sent by Bank to MOHW

- (i) Draft ICR (See Bank side step 3)
- (ii) Final ICR (after Bank's Board approval) (See Bank side Step 5)

Summary of Evaluation on the Project Performance of the IBRD Loan, 3516-KO

March 1997

**Ministry of Health and Welfare
Republic of Korea**

1. Project :IBRD Loan 3516-KO-Public Hospital Modernization Project

2. Period : Oct. 2. 1992 - Dec. 31. 1996

3. Background

With the evolution of medical technology, increased population in the aged group, and the change of the patterns of diseases, the Korean health care market was needed to change its focus from acute care services to chronic care services. However, due to financial difficulties, the public hospitals was not possible to allocate funds for purchasing modernized medical equipments to meet those new demands. With this respect, the Korean government decided to make a Loan Agreement with IBRD to enhance care ability of public hospitals which were provided relatively low quality of care in comparison to private hospitals.

4. Purpose

The purpose of 'IBRD Loan 3516-KO-Public Hospital Modernization Project' are to enhance the quality of health care, expand the accessibility of health care services in the recipient organizations, and finally promote national health status by means of modernizing medical equipments and lab. facilities.

5. Selected Organizations and their major functions

- ▶ National Medical Center : a tertiary hospital for indigent patients(600 beds).
- ▶ Public Hospitals in rural areas(10 hospitals) : the primary care hospitals which are located in medium sized cities for indigent patients
- ▶ National Institute of Health : the organization which functions monitoring the epidemics, vaccine development, and training health care officials.

6. Medical equipment purchasing list in selected organizations

the loan recipients	US\$ amounts of the loan	# of purchasing Equip.	Remarks
►NMC	9,958,005.29	Operating Microscope 1 set etc., 105kinds	
►Public Hospitals (10)	9,988,670.27	Colonoscope 1 set etc., 221 kinds	
►NIH	9,876,569.95	UV/VIS spectrophotomete 1 set etc., 407 kinds	
Total	29,823,245.51		

7. Results

The following improvements are the results of the public hospital modernization project in selected organizations.(See more details in appendix sheets)

► National Medical Center

In addition to its major function which is acute care service for the indigent, the NMC has been enlarged its service scope by providing chronic care services such as prevention services through modern technology equipments.

► Public hospitals in rural areas(10 hospitals)

With the use of modern technology equipments, the hospitals are able to provide high quality of care and reduce the cost of care. Also, the patients are able to receive same quality of care which was not possible in their local public hospitals before.

► National Institute of Health

The new lab. test equipments make the NIH enables to detect the epidemics more powerfully and accurately.

8. Evaluation

The 'IBRD Loan 3516-KO-Public Hospital Modernization Project' is successfully implemented and , as a result, we think the quality level of Korean health care system and ability to control diseases is being enhanced.

< Appendix Sheet >

Table A : Project Component Completion Dates

Component Name	Starting Date	Completion Date
NIH	May.14, 1993	Aug.6, 1996
NMC	Dec.2, 1993	Aug.21, 1996
Chun-Cheon ph	Jul.4, 1995	Dec.9, 1996
Won-Ju Ph	Nov.25, 1994	Dec.9, 1996
Kang-Reung Ph	Apr.3, 1995	Nov.21, 1995
Sok-Cho Ph	Apr.12, 1995	Sep.28, 1995
Yong-Wol Ph	Sep.19, 1995	Sep.24, 1996
Sam-Cheok Ph	May.17, 1995	Oct.13, 1995
Cheung-Ju Ph	Aug.10, 1994	May.17, 1995
Kun-San Ph	Feb.7, 1995	Mar.19, 1996
Nam-Won Ph	Feb.7, 1995	Dec.9, 1996
Po-Hang Ph	May.17, 1995	May.30, 1996

Table B : Data collection for understanding whether due of objectives for this project has succeeded or not

The aimed at this objective in feference

To improve the medical treatment capacity of the rural public hospitals by better equipping the rural public hospitals.

Suggested Method

To collect data from rural hospitals on number of the inpatient, outpatient over a period.

(crossing from before the project to after the project)

Collect data from rural public hospitals

Name of PH	Location	Number of Patient	Period foom '93 to '96			
			'93	'94	'95	'96
Chun-Cheon	KangWon-Do	Inpatient	73,519	77,221	81,471	84,456
		Outpatient	104,862	121,647	145,065	168,257
		Total	178,381	198,868	226,536	252,713
Won-Ju	KangWon-Do	Inpatient	67,146	83,924	86,149	97,209
		Outpatient	99,060	105,302	110,389	123,394
		Total	166,206	189,226	196,538	220,603
Sam-Cheok	KangWon-Do	Inpatient	49,178	56,663	60,665	59,439
		Outpatient	129,024	129,066	125,462	130,528
		Total	178,202	185,729	183,127	189,967
Po-Hang	KyongSang Buk-Do	Inpatient	76,015	79,104	85,151	93,533
		Outpatient	33,430	45,016	50,952	67,472
		Total	109,445	124,120	136,103	161,005

※ The number of inpatient - total man- days

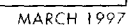
The number of outpatient - actual man

* Data for 6 additional hospitals is given in the Attachment overleaf.

Patient Data from 6 Additional Rural Public Hospitals¹

Name of PH	Location	Number of Patients	Period from '93 to '96			
			'93	'94	'95	'96
Kang-Reung	KangWon-Do	In-patient	38,199	36,963	46,421	45,507
		Out-patient	103,790	91,666	95,678	101,918
		Total	141,989	128,629	142,099	147,425
Sok-Cho	KangWon-Do	In-patient	45,251	44,220	40,323	34,689
		Out-patient	94,254	95,893	88,762	94,254
		Total	139,505	140,113	129,085	128,943
Young-Wol	KangWon-Do	In-patient	45,150	47,869	53,971	41,574
		Out-patient	87,407	97,051	96,626	89,044
		Total	132,557	144,920	150,597	130,618
Cheung-Ju	CheungCheung Buk-Do	In-patient	116,333	120,612	123,185	119,076
		Out-patient	91,646	93,225	83,682	74,754
		Total	207,979	213,837	206,867	193,830
Kun-San	CheonRa Buk-Do	In-patient	128,529	136,903	136,271	107,946
		Out-patient	99,388	122,350	138,754	117,269
		Total	227,917	259,253	275,025	225,215
Nam-Won	CheonRa Buk-Do	In-patient	128,529	50,127	93,727	93,578
		Out-patient	108,852	115,028	88,862	96,617
		Total	237,381	165,155	182,589	190,195

¹ Source: GOK Submission on February 18, 1997



IMAGING

Report No.: 16812
Type: ICR